providing a reel controller for performing low-level operations related to movement of said reel; and

providing a central processing unit for issuing high-level commands to said reel controller related to the movement of said reel, said high-level commands including a command for informing said reel controller of at least one of an acceleration profile for accelerating said reel and a deceleration profile for decelerating said reel.

REMARKS

Claims 1-29 remain in the application for prosecution. Claims 1, 6, 9 and 12 have been amended. Claims 14-29 have been added. Submitted herewith is a clean set of pending claims.

Information Disclosure Statement

The Applicant notes that an initialed Form PTO-1449 submitted with the Third Information Disclosure Statement ("Third IDS") on February 14, 2002, was not included with the Office Action. Submitted herewith is a copy of the PTO-stamped postcard dated March 1, 2002, indicating receipt of the Third IDS. Also submitted herewith are copies of the Third IDS and the cited references. The Applicant respectfully requests return of the initialed Form PTO-1449 acknowledging that the references cited in the Third IDS have been considered.

Claim Rejections - 35 U.S.C. § 102

Claims 1-5 and 7-13 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,394,900 to McGlone et al. ("McGlone"). The Applicant respectfully submits that the claims, as amended, overcome any prior art rejection to claims 1-5 and 7-13.

Claims 1-5 and 7-13 have been amended to require that *the central processing unit sends configuration data to the local microcontroller for configuring the local microcontroller to a*

reel spinning game conducted with the slot machine. This feature of configuring the local microcontroller with configuration data sent from the central processing unit is absent from McGlone. In fact, McGlone teaches away from the claimed configuration feature.

Specifically, McGlone discloses that the slot reel peripheral's configuration is stored in a non-volatile memory 618 of the slot reel controller 534 and is loaded into the local microprocessor's volatile memory 608 from the non-volatile memory 618. *See* column 15, lines 25-57; column 13, lines 51-54; FIG. 6. Thus, the local microprocessor of McGlone is configured with configuration data already contained within the slot reel peripheral, not with configuration data sent from the machine's master gaming controller. By containing such information within the slot reel peripheral, McGlone states that the amount of information needed to be installed on the master gaming controller may be minimized when the slot reel peripheral is replaced. *See* column 10, lines 4-19; column 13, lines 55-57. If McGlone were modified to configure the local microprocessor with configuration data sent from the master gaming controller, the configuration data would need to be installed on the master gaming controller. This would directly compromise McGlone's stated objective of minimizing the amount of information installed on the master gaming controller. *See* MPEP 2143.01 ("The proposed modification cannot render the prior art unsatisfactory for its intended purpose." "The proposed modification cannot change the principle of operation of a reference.").

Accordingly, McGlone fails to teach or suggest the invention in claims 1-5 and 7-13 and, in fact, teaches away from the invention. New claims 14-22 also require the feature of configuring the local microcontroller with configuration data sent from the central processing unit and, therefore, should be patentable for at least the reasons set forth above for claims 1-5 and 7-13.

Claim Rejections - 35 U.S.C. § 103

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over McGlone as applied to claim 1 above. Claim 6 has been rewritten in independent form to include the features of original claim 1 and to further require that *the printed circuit board containing the local microcontroller is oriented generally perpendicular to an axis of rotation of the reel*. This construction, which is shown by the printed circuit board 39 in FIG. 2 of the present application, provides for a compact reel mechanism and reduces the length of cables between the electronics on the printed circuit board and other components of the reel mechanism. For example, the cable between the electronics and the motor for rotating the reel carries a high-current motor drive pulse with the potential to cause electromagnetic interference (EMI) in other devices inside (and outside) the machine. Minimizing the length of this cable greatly reduces the extent of EMI. Further, the cable between the electronics and an optical sensor for detecting reel position carries a low level analog signal, susceptible to corruption from other sources, such as the EMI from the motor drive circuitry. Minimizing the length of this cable reduces this effect.

The Examiner acknowledged that McGlone does <u>not</u> teach a printed circuit board to which the local microcontroller is mounted. *See* Office Action, ¶ 4. Nonetheless, the Examiner alleged that "[i]t would have been obvious . . . to have mounted the microcontroller on a printed circuit board in order to provide a stable physical substrate for the electrical components." Assuming *arguendo* that it would have been obvious to mount the microcontroller on a printed circuit board, the Applicant respectfully submits that it would <u>not</u> have been obvious to orient this printed circuit board assembly to be generally perpendicular to an axis of rotation of the reel. The mere fact that the prior art is capable of being modified is not sufficient by itself to establish

9

a *prima facie* case of obviousness. The prior art must suggest the desirability of the claimed invention.

Here, McGlone discloses almost nothing about the physical construction of its peripheral control circuitry. McGlone merely states that its peripheral control circuitry is located within the reel assembly, but admits that such circuitry is not shown in its drawings. *See* column 6, lines 9-13. There is no suggestion in McGlone of the desirability of the invention in claim 6. It is the Applicant, not McGlone, that teaches the construction of orienting the printed circuit board containing the local microcontroller to be generally perpendicular to an axis of rotation of the reel. Any conclusion to the contrary would be based on impermissible hindsight using the Applicant's own teachings. If the Examiner wishes to maintain the obviousness rejection, the Applicant respectfully requests that the Examiner cite an appropriate reference in support of the Examiner's position. *See* MPEP 2144.03.

New Claims 14-29

A. New Claims 14-22

As noted above, new claims 14-22 require the feature of configuring the local microcontroller with configuration data sent from the central processing unit and, therefore, should be patentable for at least the reasons set forth above for claims 1-5 and 7-13.

B. New Claims 23-28

New claims 23-28 require that *the central processing unit sends a command to the reel controller for determining a type of encoder used to indicate the position of a reel.* This feature of sending a command from the CPU to the reel controller to determine the type of encoder is absent from McGlone.

McGlone merely teaches that the master gaming controller may ask the slot reel controller, "what type of device are you?," and the slot reel controller may respond, "I am a slot reel peripheral of some type." Column 16, lines 30-34. When the master gaming controller is using a USB protocol to communicate with the slot reel controller, the following information may be exchanged: 1) release specification number, 2) device class, 3) subclass, 4) device communication protocol and revision, 5) maximum receive and send packet sizes, 6) vendor identification, 7) product identification, 8) device release number, 9) manufacturer string, 10) product string, 11) device descriptor, 12) device protocol, 13) serial number, and 14) number of configuration interfaces. Column 16, lines 48-61. Using the device identification number, McGlone selects a software device driver that will operate the features of the peripheral device. Column 17, lines 40-44. Contrary to claim 23, McGlone says nothing whatsoever about querying the slot reel controller about details of an encoder used to indicate the position of the reel. Further, McGlone says nothing whatsoever about the additional features found in dependent claims 24-28.

C.   New Claim 29

New claim 29 requires that *the central processing unit issues a high-level command to the reel controller for informing the reel controller of at least one of an acceleration profile for accelerating the reel and a deceleration profile for decelerating the reel.* McGlone teaches away from this feature.

Specifically, McGlone discloses that a table of motor step rates is stored in a memory of either the master gaming controller or the slot reel controller, depending on which controller controls the reel's stepper motor. *See* column 9, lines 1-11; column 9, lines 23-57. When the

11

slot reel controller is used, the table of step rates preferably resides in the slot reel controller and

is not transferred from the master gaming controller to the slot reel controller:

> . . . Further, the maintenance required to replace a slot reel might be reduced when a slot reel peripheral is used. For example, the table of step rates is usually required to drive the stepper motor for a particular slot reel. When a new slot reel is installed on a gaming machine and the master gaming controller drives the stepper motor of the slot reel, a table to drive the stepper motor corresponding to the new slot reel may be loaded into a memory device on the mother board containing the master gaming controller. Further, all the low-level commands and software needed to drive the stepper motor may also be loaded in memory on the motherboard. This process may be very time consuming. Using the slot reel peripheral, most of this information may be contained within the slot reel controller. Column 10, lines 4-22.

In an example, McGlone teaches that the step rates are included in a low-level command

issued by the slot reel controller, not a high-level command sent from the master gaming
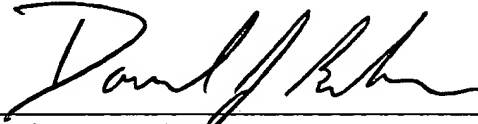
controller to the slot reel controller:

> . . . For the stepper motor example described above, the low-level commands, charge the motor, initiate first step, step at rate 1, step at rate 2, step at rate 3, step at rate 4, perform final step, and stop the motor, might be initiated by the slot reel controller 402 after receiving a high-level instruction from the master gaming controller 422 like "move the slot reel 420 to position A." Column 9, lines 51-57.

Conclusion

It is the Applicant's belief that all of the claims are now in condition for allowance and

action towards that effect is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview,

the Examiner is requested to contact the undersigned attorney at the number indicated.

Respectfully submitted,

Date: October 17, 2002

Daniel J. Burnham
Reg. No. 39,618
Jenkens & Gilchrist
225 West Washington Street, Suite 2600
Chicago, IL 60606-3418
(312) 425-3900
Attorney for Applicant

13